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Patent Counsel
Schlumberger Reservoir Completions
Schlumberger Technology Corporation
P.O. Box 1590
Rosharon, TX 77583-1590

EXAMINER

LAM, THANH

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,402

Applicant(s)

Flesham et al.

Examiner

Thanh Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 3, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Mar 19, 2001 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "a single motor" "a continuous linear stator" and "a single end coil section" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the phrases "a single motor" "a continuous linear stator" cited in claims 2, 20 and 23, and "a single end coil section" cited in claim 12.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to

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which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 21 and 23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "a continuous linear stator" cited in claims 2, 20 and 23, and "a single end coil section" cited in claim 12.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, and 7-13 and 20-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ekstromer.

Ekstromer discloses an electric motor, comprising: a plurality of motor sections (17), wherein the plurality of motor sections are mechanically (the mating between the upper frame 22 and the lower frame 22 of fig. 4) and electrically (38) coupleable to form a single motor of a desired length, each motor section including a modular rotor section (24) and a modular stator section (25).

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Regarding claim 2, Ekstromer discloses (fig. 2) the plurality of motor sections (17) includes: a first motor section (the middle 17) having a first modular rotor section (the middle 24) and a first modular stator section (middle 25); and a second modular motor section (the top 17) having a second modular rotor section (the top 24) coupleable to the first modular rotor section (the top 24) and a second modular stator section (the top 25) electrically coupleable to the first modular stator section to form a single continuous linear stator (17, fig. 2) wherein electricity (38) flowing through the first and second stator sections produces a magnetic field to impart rotative motion in the rotor.

Regarding claim 7, Ekstromer discloses at least one modular stator section has a plurality of conductors (38) terminating at a plurality of corresponding protrusions (37).

Regarding claim 8, Ekstromer discloses at least one other modular stator section includes a plurality of conductive elements (38) configured for engagement with the plurality of corresponding protrusions (37) when the plurality of motor sections are mechanically coupled.

Regarding claim 9, Ekstromer discloses the plurality of conductive elements each include a hollow receptacle (36) configured to receive a corresponding protrusion (37).

Regarding claim 10, Ekstromer discloses a separate coupler (37) disposed between the first and second motor sections to provide a mechanical and electrical coupling.

Regarding claim 11, Ekstromer discloses at least one of the plurality of motor sections includes an outer housing (22) having a threaded collar (thread portion to match with bolt 39) designed to engage an outer housing of the next sequential motor section.

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Regarding claim 12, Ekstromer discloses a submersible pumping system, comprising: a submersible electric motor (16), comprising a plurality of motor sections (17, fig. 2), wherein the plurality of motor sections are mechanically (22,29) and electrically (36,38) coupleable to form a motor of a desired length, each motor section comprising a modular rotor section (24) coupleable to an adjacent modular rotor section (the middle rotor 24) of an adjacent motor section to form a rotor; and a modular stator section coupleable to an adjacent modular stator section of the adjacent motor section; and a single end coil section (inherently disclosed at the end of the stator 17) coupleable to one of the plurality of modular motor sections to complete electrically a stator formed by the plurality of modular stator sections and the single end coil section; and a submersible pump (12) drivingly coupled to the rotor of the submersible electric motor.

Regarding claim 13, Ekstromer discloses the plurality of motor sections includes: a first motor section (upper 17) having a first rotor section (24) and a first stator section (25) ; and a second motor section (middle 17) having a second rotor section coupleable to the first rotor section (middle 24) and a second stator section electrically (36,38) coupleable to the first stator section, wherein electricity flowing through the first and second stator sections produces a magnetic field to impart rotative motion in the rotor.

Regarding claim 20, Ekstromer discloses a single end coil section adapted to complete electrically the single stator formed by the first modular stator section and the second modular stator section.

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Regarding claim 21, Ekstromer discloses each modular stator section comprises a first stator winding extending linearly through the modular stator section to form a continuous linear stator with a second stator winding extending linearly through an adjacent modular stator section.

Regarding claim 22, Ekstromer discloses the modular stator sections are coupled electrically in series

Regarding claim 23, Ekstromer discloses an electric motor, comprising: a plurality of motor sections, wherein the plurality of motor sections are mechanically and electrically coupleable to form a motor of a desired length, each motor section including a modular rotor section and a modular stator section adapted to form a continuous linear stator.

Regarding claim 24, Ekstromer discloses the plurality of modular stator sections are adapted to form a single stator when electrically coupled in series.

Regarding claim 25, Ekstromer discloses a single end coil section adapted to complete electrically the modular stator sections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 3-5, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekstromer in view of Schob (pn. 5,939,813).

Ekstromer discloses all aspect of claimed invention except for stator/motor sections are fluidly coupleable to allow a fluid flow therethrough.

Schob (fig. 3) discloses stator sections (3) are fluidly coupleable to allow a fluid flow (7a-c) therethrough, the purpose of the fluid flow is for cooling the stator/motor sections.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the stator/motor sections of Ekstromer to accommodate the stator/motor sections to allow the fluid flows therethrough as taught by Schob. The fluid flows between the stator/motor sections in order to provide an improvement of cooling of the stator sections.

Regarding claim 5, the second motor section (17 of Ekstromer) is fluidly coupleable to an external device (2 of Schob).

Regarding claim 14, a motor protector (32 of Ekstromer), wherein the plurality of motor sections are fluidly coupleable to allow fluid to pass (taught by Schob) between the first motor section and the motor protector.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ekstromer in view of Rabson.

Ekstromer discloses all aspect of claimed invention except for a seal disposed between the first motor section end and the second motor section.

Rabson disclose a seal (115) for shielding

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the motor sections of Ekstromer and disposed the seal as taught by Rabson to improve shielding of the motor sections.

Response to Arguments

9. Applicant's arguments filed 7/3/2002 have been fully considered but they are not persuasive.

In response to applicant's argument that Ekstromer discloses the motive power drive unit is not a single motor.

The examiner submits that Ekstromer's motor structure having a plurality of stator section (17) and rotor section (24) after assembly the sections together and supplied by a single power source (18) rotor sections rotated on the same shaft. Therefore, the motor structure as taught by Ekstromer (lines 97-100) can be treated as a single motor. Besides that, the motor structure of Ekstromer read on every limitation of the claimed language and having the same motor structure as showing in the drawing of the application.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3432.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.



Thanh Lam

Patent Examiner

Sept. 10, 2002


VICTOR RAMIREZ
SUPERVISOR OF PATENT EXAMINERS
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